

REMARKS**I. The Claimed Subject Matter Has A Proper Written Description and Proper Enablement**

The Examiner has rejected the claims as allegedly lacking a proper written description and as lacking enablement. In particular, the Examiner argues that the specification characterizes the stem cells as comprising a plurality of defining markers and cannot be properly described by the claims that encompass a single marker. The Examiner also argues that the specification, while providing support for solid tumor stem cells derived from breast carcinoma and tumors of epithelial origin, does not support all cell origins. Applicants respectfully disagree. However, the rejection is rendered moot in view of Applicants' claim amendments, which are made without acquiescing to the Examiner's arguments (Applicants reserve the right to prosecute the original claims, or similar claims, in the future). As amended, the claims are directed to solid tumor stem cells of epithelial origin that are characterized by a plurality of defining markers (e.g., the cells are CD44⁺, CD24^{-/low}, and LINEAGE⁻ per the claim). Support for the claim language is found throughout the specification (e.g., Example section). In view of the above, Applicants request that rejection be withdrawn.

II. The Claimed Subject Matter is Novel and Non-Obvious


The claims are rejected as allegedly being anticipated or rendered obvious in view of a number of references, either alone, or in combination. Applicants respectfully disagree. However, as noted above, the claims have been amended. None of the cited references teach or suggest compositions or methods related to isolated or enriched solid tumor stem cells of epithelial origin with the recited plurality of defining markers. Furthermore, the cited references fail to teach or suggest numerous additional elements found in the independent and dependent claims, including, but not limited to, levels or isolation (e.g., 75% in claim 1), the presence or absence of other recited markers, source of the cells, and the ability to form new tumors.

In each of the pending rejections, the Examiner has argued that certain of the prior art reference suggest cells with one of the previously claimed markers (either expressly or inherently). While Applicants disagree with the Examiner's support for these rejections, they are moot in view of the present amendments. None of the pending rejections argues that the cited references teach or suggest that the currently claimed combination of physical properties can be used to identify or isolate solid tumor cells (e.g., away from other cells in the tumor) or that isolated or enriched cells have such properties. While the Examiner has argued that certain cells isolated in the prior art must inherently have one or more of certain of the various markers claimed in Applicants' previous independent and dependent claim,¹ nothing in the cited references teaches or suggests isolated cells (or isolating cells) having the combination of markers now claimed. The prior art did not appreciate that cells having such markers are tumorigenic or otherwise interesting in any manner. Thus, there is no suggestion or motivation in the art to isolate cells with this combination of markers. In view of the above, Applicants request that the rejections be withdrawn.

CONCLUSION

All grounds of rejection of the Office Action of August 12, 2003 have been addressed and reconsideration of the application is respectfully requested. It is respectfully submitted that Applicant's claims as amended should be passed into allowance. Should the Examiner believe that a telephone interview would aid in the prosecution of this application Applicant encourages the Examiner to call the undersigned collect at (608) 218-6900.

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¹ Applicants disagree with this assertion.